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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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MINERALS PROGRAM
FILE COPY

October 15, 1991

Mr. Steve Brooks
Bureau of Land Management
Pony Express Resource Area
2370 South 2300 West
Salt Lake City, Utah 84119

Dear Mr. Brooks:

Re: Aragonite Reclamation Plans, M/045/031, Tooele County, Utah

Please find enclosed, recently updated plans for the Aragonite mill and mine sites in Tooele County. Division staff met on October 7, 1991 with Mr. Lon Thomas to discuss the reclamation progress at the Aragonite sites and to agree upon language and dates described in the plan.

Please review the enclosed material, which includes a seed mix, and notify us as soon as possible regarding any changes or comments you may have.

Sincerely,

Holland Shepherd
Senior Reclamation Specialist

jb
Enclosure
cc: Wayne Hedberg, DOGM
M045031.1

Thomas American Stone
Aragonite Mine and Mill
M/045/031

RECLAMATION PLAN
MILL AREA

- 1 The trailer will remain until closure of the mill at that time it will be removed. The area will be scarified and reseeded with the BLM and DOGM approved seed mix. Topsoil will be added where necessary.
- 2 The trailer will remain until closure of mill, at that time it will be removed. The area will be scarified and reseeded with the BLM and DOGM approved seed mix. Topsoil will be added where necessary.
- 3 Boulders in this area will be gradually reduced over a four year period. Any remaining will either be recontoured or moved to area 5. The area will be scarified and reseeded with the DOGM and BLM approved seed mix. Topsoil will be added where necessary.
- 4 The Quonset hut will be used until mill closure, then torn down leaving the foundation. The foundation will be broken up (if possible), and covered with available soil material.
- 5 The active 5 Acre mill area will be used until closure of the mine, then the remaining area will be recontoured leaving no greater than 2 to 1 slopes. The buildings will be removed, leaving only the foundations. All ground will be scarified and reseeded with a BLM and state DOGM approved seed mix. All foundations, other than the mill foundation, will be broken up (if possible) and covered with available soil material and seeded.
- 6 Dirt stock pile will be moved to cover #10 waste dump.
- 7 The mill building will be used until closure of the mine, and then torn down to the foundation. The foundation will be broken up and covered with a minimum of 2 feet of soil material then reseeded, or the operator will obtain variance for an alternate post mine use.
- 8 Generator will be used until mine closure and then removed.
- 9 Fine waste material will be recontoured and seeded with a BLM and DOGM approved seed mix before November 30, 1991.
- 10 Waste dump to be cleaned up in accordance with the Board Order. All exposed tires and scrap metal will be removed to a licensed landfill. Dump clean up will be completed by June 30, 1992.

- 11 Spare parts will be consolidated and moved into the active 5 acre mill site area (see #5 on map) by October 31, 1991.
- 12 Ore stock piles outside of area 5 will be reduced over a four year period then the remaining will be moved or reclaimed by May 1, 1995. The newly cleared area will be regraded, scarified and reseeded by the end of the four-year period.
- 13 Ore stock pile will be moved into the active 5 acre mill area (see #5 on map) by May 1, 1995.
- 14 Boulder pile will be recontoured by October 31, 1991.

RECLAMATION PLAN
ARAGONITE MINE AREA

- 1 This is an old disturbed mine area. This area will be recontoured and reseeded in exchange for area #5 by November 30, 1991.
- 2 American Stone used half of this area in 1978. It will be recontoured then scarified and reseeded. The reclamation of this area will be completed by November 30, 1991.
- 3 Active mine 5-acre mine area. Work will proceed mostly on the south end for 1991-1993. When the mine is closed, a fence will be constructed around the highwalls and clearly marked. The mine dumps will be sloped to 2:1 or conform to the approximate original contour then scarified, and seeded with a BLM and DOGM approved seed mix. The dump areas have a high content of dirt and support vegetation quite well.
- 4 1982 Dump Area. Some of this dirt will be taken to other areas, and used for a seed base. The area will then be recontoured, scarified, and seeded. This is to be completed by November 30, 1991.

- 5 1988 area. Most of the dirt has been stripped to make future mining possible. However there is enough to support some vegetation. The scalped hillsides will be seeded by November 30, 1991, with an approved mix, but no recontouring or dirt spreading will be done, at this time, on the quarry portion of the area. At closure, the area will be recontoured to a reasonable slope, soil material applied and then seeded.
- 6 1987 area - Disturbance by someone other than American Stone. But American Stone has agreed with the BLM to spread some dirt on it and the BLM would supply the seed. This will be done by November 30, 1991.
- 7 Area along road will be smoothed down, scarified, and reseeded by November 30, 1991.
- 8 This area will be regraded to 2:1 slopes, covered with available fines then reseeded.
- 9 This area will be regraded to 2:1 slopes, covered with available fines then reseeded.
- 10 Old area, nothing will be done.

10-91

Seed Recommendation for the Aragonite Mine and Mill

Seed Mix Recommendation

Common Name (Species)	Rate lbs/ac
<u>Grasses</u>	
Indian ricegrass (<i>oryzopsis hymenoides</i>)	3
Crested wheatgrass (<i>Agropyron desertorum</i>)	2
Bluebunch wheatgrass (<i>Agropyron.spicatum</i>)	3
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1
<u>Forbs</u>	
Yellow sweetclover (<i>Melilotus officinalis</i>)	2
<u>Shrubs</u>	
Fourwing saltbush (<i>Atriplex canescens</i>)	3
Winterfat (<i>Eurotia lanata</i>)	2
Rabbitbrush (<i>Chrysothamnus nauseosus</i>)	2
Total	18 lbs/ac

The above seeding rate has been developed for application by broadcasting. If drill seeding is to be used the rate should be reduced by 35%.

Seed Application

You will need to ensure that the soil has been loosened sufficiently before seeding by disking or harrowing (at least the first 6 inches of soil). Where the soil has become extremely compacted, resulting from heavy equipment usage, you will need to deep rip the soil, before seeding.

The seed should then be evenly broadcast over the entire area. After seeding, the soil surface should be scarified to a depth of 1/4 inch to 1 inch. This will incorporate the seed at a sufficient depth such that spring germination will be enhanced. Scarification is generally done by dragging a log, chainlink fence, bedsprings or whatever is available, behind a truck or tractor.

The seed should be applied before the first hard freeze of the year, before the end of November.